

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12G1/02 C12H1/00 C12N1/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C12G C12H C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, FSTA, BIOSIS, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
------------	--	-----------------------

A	US 5 607 854 A (PRAHL CLAUS ET AL) 4 March 1997 (1997-03-04) cited in the application column 4, line 15 - line 60; examples 1,2	1-62
---	--	------

A	US 5 077 060 A (PRAHL CLAUS) 31 December 1991 (1991-12-31) column 3, line 12 - column 4, line 35; claims; example 7	1-62
---	--	------

A	US 5 460 837 A (D AMICO NICOLA ET AL) 24 October 1995 (1995-10-24) column 2, line 18 - line 40; claims 1-10; examples 1,2	1-62
---	--	------

A	EP 0 327 380 A (UNISEARCH LTD) 9 August 1989 (1989-08-09) example 2; table 2	1-62
---	--	------

-/--

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

27 April 2005

Date of mailing of the international search report

31. 05. 2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Baminger, U

INTERNATIONAL SEARCH REPORT

International Application No

PCT/DK2004/000455

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>NIELSEN JAN CLAIR ET AL: "Malolactic fermentation in wine by direct inoculation with freeze-dried <i>Leuconostoc oenos</i> cultures"</p> <p>AMERICAN JOURNAL OF ENOLOGY AND VITICULTURE, vol. 47, no. 1, 1996, pages 42-48, XP009023863 ISSN: 0002-9254 the whole document</p>	1-62
A	<p>NIELSEN J C ET AL: "Control of flavor development in wine during and after malolactic fermentation by <i>Oenococcus oeni</i>."</p> <p>APPLIED AND ENVIRONMENTAL MICROBIOLOGY 65 (2) 740-745 1999 RESEARCH & DEV., CHR. HANSEN A/S, DK-2970 HORSHOLM, DENMARK. TEL. 45 45747474. FAX 45 45748994. E-MAIL JCN.DK(A)CHR-HANSEN.COM, February 1999 (1999-02), XP002266818 page 741, column 1, last paragraph page 743, column 2, last paragraph - page 744, column 1, paragraph 1 page 740, column 1 - column 2</p>	1-62
A	<p>VILJAKAINEN S K ET AL: "The use of malolactic <i>Oenococcus oeni</i> (ATCC 39401) for deacidification of media containing glucose, malic acid and citric acid"</p> <p>EUROPEAN FOOD RESEARCH AND TECHNOLOGY, SPRINGER VERLAG, HEIDELBERG, DE, vol. 211, no. 6, 2000, pages 438-442, XP002266819 ISSN: 1438-2377 the whole document</p>	1-62
A	<p>CARRIE C ET AL: "COMPARISON OF COMMERCIAL PREPARATIONS OF LACTIC ACID BACTERIA FOR DIRECT INOCULATION, FOR CONTROL OF MALOLACTIC FERMENTATION OF MERLOT WINES</p> <p>COMPARISON DE PREPARATIONS COMMERCIALES DE BACTERIES LACTIQUES A ENSEMENCEMENT DIRECT, EN VUE DE GERER LA FERMENTATION MALOLACTIQUE DU MERLOT"</p> <p>REVUE DES OENOLOGUES ET DES TECHNIQUES VITIVINICOLES ET OENOLOGIQUES, UNION NATIONALE DES OENOLOGUES FRANCE BOURGOGNE-PUBLICATIONS,, FR, no. 103, 2002, pages 16-18, XP009023946 ISSN: 0760-9868 page 17, column 2, last paragraph - page 18, column 2, paragraph 2; table 3</p>	1-62

-/--

INTERNATIONAL SEARCH REPORT

 International Application No.
 PCT/DK2004/000455

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>REGUANT C ET AL: "Influence of phenolic compounds on the physiology of <i>Oenococcus oeni</i> from wine." JOURNAL OF APPLIED MICROBIOLOGY 88 (6) 1065-1071 2000 CORRESPONDENCE (REPRINT) ADDRESS, A. BORDONS, DEP. DE BIOQUIMICA I BIOTEC., UNIV. ROVIRA I VIRGILI, E-43005 TARRAGONA, CATALONIA, SPAIN. E-MAIL ABPD(A)ASTOR.URV.ES, 2000, XP001157128 page 1070, column 1, paragraph 2 - paragraph 3; table 1</p>	1-62
X	<p>US 4 562 077 A (KING ET AL) 31 December 1985 (1985-12-31)</p>	63-75
Y	<p>column 3, line 33 - column 4, line 45; claim 1</p>	76-104
Y	<p>US 6 284 518 B1 (HENICK-KLING THOMAS ET AL) 4 September 2001 (2001-09-04) claims</p>	76-104
Y	<p>KRIEGER S A: "THE USE OF ACTIVE DRY MALOLACTIC STARTER CULTURES" AUSTRALIAN AND NEW ZEALAND WINE INDUSTRY JOURNAL, AUSTRALIAN INDUSTRIAL PUBLISHERS, ADELAIDE, AU, vol. 8, no. 1, February 1993 (1993-02), pages 56-62, XP009023867 ISSN: 0819-2421 page 57, column 2; figure 2</p>	76-104
Y	<p>JOYEUX A ET AL: "COMPARAISON DE DIVERSES PREPARATIONS INDUSTRIELLES DE BACTERIES LACTIQUES REACTIVEES POUR STIMULER LA FERMENTATION MALOLACTIQUE COMPARISON OF VARIOUS REACTIVATED INDUSTRIAL PREPARATIONS OF LACTIC ACID BACTERIA FOR STIMULATION OF MALOLACTIC FERMENTATION" CONNAISSANCE DE LA VIGNE ET DU VIN, VIGNE ET VIN PUBLICATIONS INTERNATIONALES, BORDEAUX, FR, vol. 19, no. 3, 1985, pages 149-159, XP009023986 ISSN: 0010-597X page 152, paragraph 2</p>	76-104
T	<p>BELITZ, H.-D. AND GROSCH, W.: "Lehrbuch der Lebensmittelchemie" 1992, SPRINGER, XP002326417 page 767; table 18.35</p>	

-/--

INTERNATIONAL SEARCH REPORT

International Application No
PCT/DK2004/000455

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>PILATTE E ET AL: "Development of a specific activator for malolactic bacteria." REVUE DES OENOLOGUES ET DES TECHNIQUES VITIVINICOLES ET OENOLOGIQUES, 1999, XP009046219 CHR. HANSEN FRANCE, 91 ARPAJON; F page 31, column 3 - page 32 -----</p>	76-104

INTERNATIONAL SEARCH REPORT

International application No.
PCT/DK2004/000455

Box II. Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III. Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-62

An isolated purified microorganism that has a capability of fermenting malic acid to lactic acid and a limited capability of degrading citric acid as well as having certain survival rates when added DIRECTLY to a specified fermented sterile fruit juice in a frozen or freeze-dried form.

The production of such an organism, a concentrate and a dried preparation of the organism as well as its use in inducing malo-lactic fermentation in wine and the preferential degradation of malic acid over citric acid.

2. claims: 63-104

An activation solution comprising a nitrogen source, a certain concentration of sugar and a microbial organism capable of fermenting at least one fermentable compound. A dry concentrate thereof and a method in which this concentrate is used to induce a fermentation in a liquid composition comprising at least water and the fermentable compound.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/DK2004/000455

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5607854	A	04-03-1997	US 2003203069 A1	30-10-2003
			AU 676472 B2	13-03-1997
			AU 4038593 A	08-11-1993
			DE 69301238 D1	15-02-1996
			DE 69301238 T3	09-08-2001
			DE 635050 T1	13-07-1995
			EP 0635050 A1	25-01-1995
			AT 132525 T	15-01-1996
			WO 9320180 A1	14-10-1993
			ES 2065869 T1	01-03-1995
			NZ 251966 A	26-07-1995
US 5077060	A	31-12-1991	AT 103324 T	15-04-1994
			AU 3054489 A	11-08-1989
			AU 620379 B2	20-02-1992
			DE 68914144 D1	28-04-1994
			DK 30289 A	26-07-1989
			WO 8906685 A1	27-07-1989
			EP 0398957 A1	28-11-1990
US 5460837	A	24-10-1995	CH 682155 A5	30-07-1993
			AU 1300992 A	22-10-1992
			EP 0523316 A1	20-01-1993
			HU 63874 A2	28-10-1993
			NZ 242161 A	26-08-1993
			ZA 9201923 A	25-11-1992
EP 0327380	A	09-08-1989	AT 109823 T	15-08-1994
			AU 2954889 A	10-08-1989
			DE 68917329 D1	15-09-1994
			EP 0327380 A2	09-08-1989
			US 5104665 A	14-04-1992
US 4562077	A	31-12-1985	AT 28214 T	15-07-1987
			AU 561032 B2	30-04-1987
			AU 2180783 A	26-04-1985
			DE 3372379 D1	13-08-1987
			EP 0141878 A1	22-05-1985
			ES 8601298 A1	16-02-1986
			NZ 206375 A	29-11-1988
			US 4904486 A	27-02-1990
			US 4708877 A	24-11-1987
			ZA 8406122 A	27-03-1985
US 6284518	B1	04-09-2001	NONE	